Sept. 27, 1932. A. K. LINDSEY 1,879,880

COMBINATION PORTABLE STOVE

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Fig. 1.

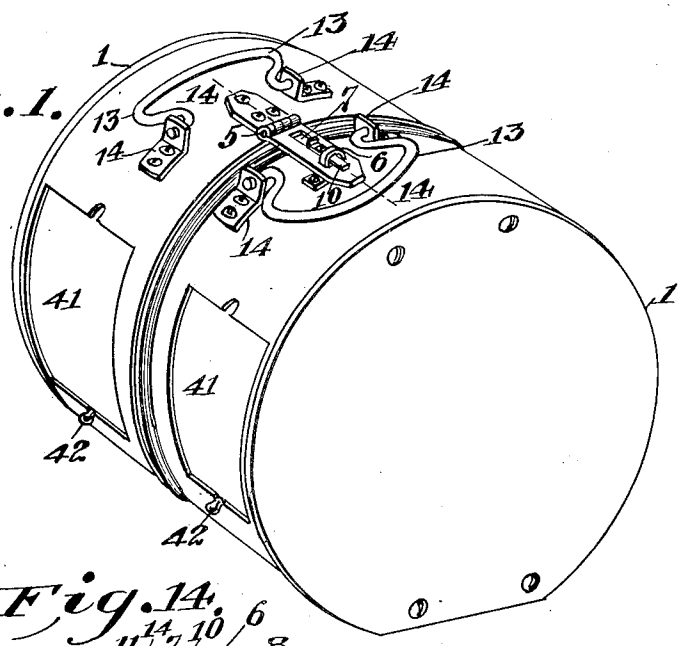


Fig. 14.

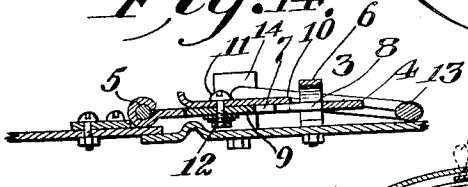
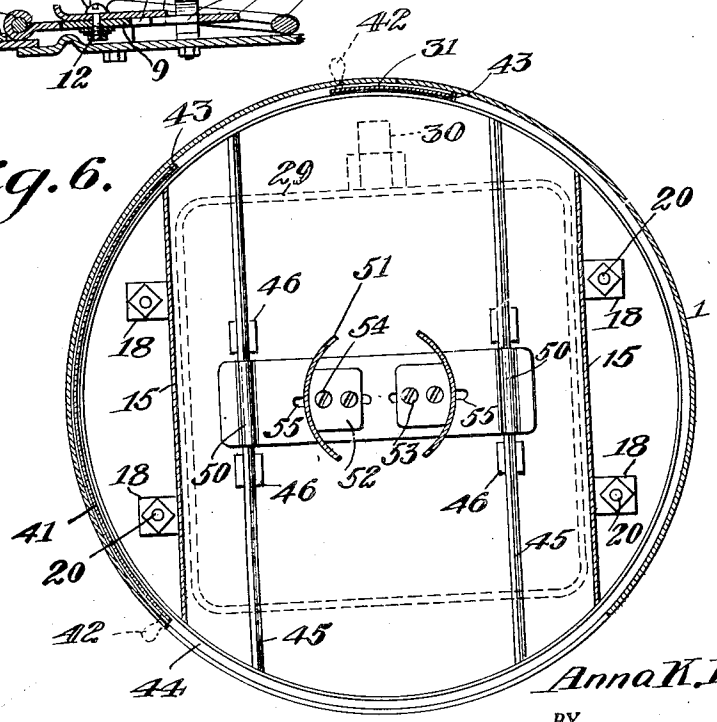


Fig. 6.



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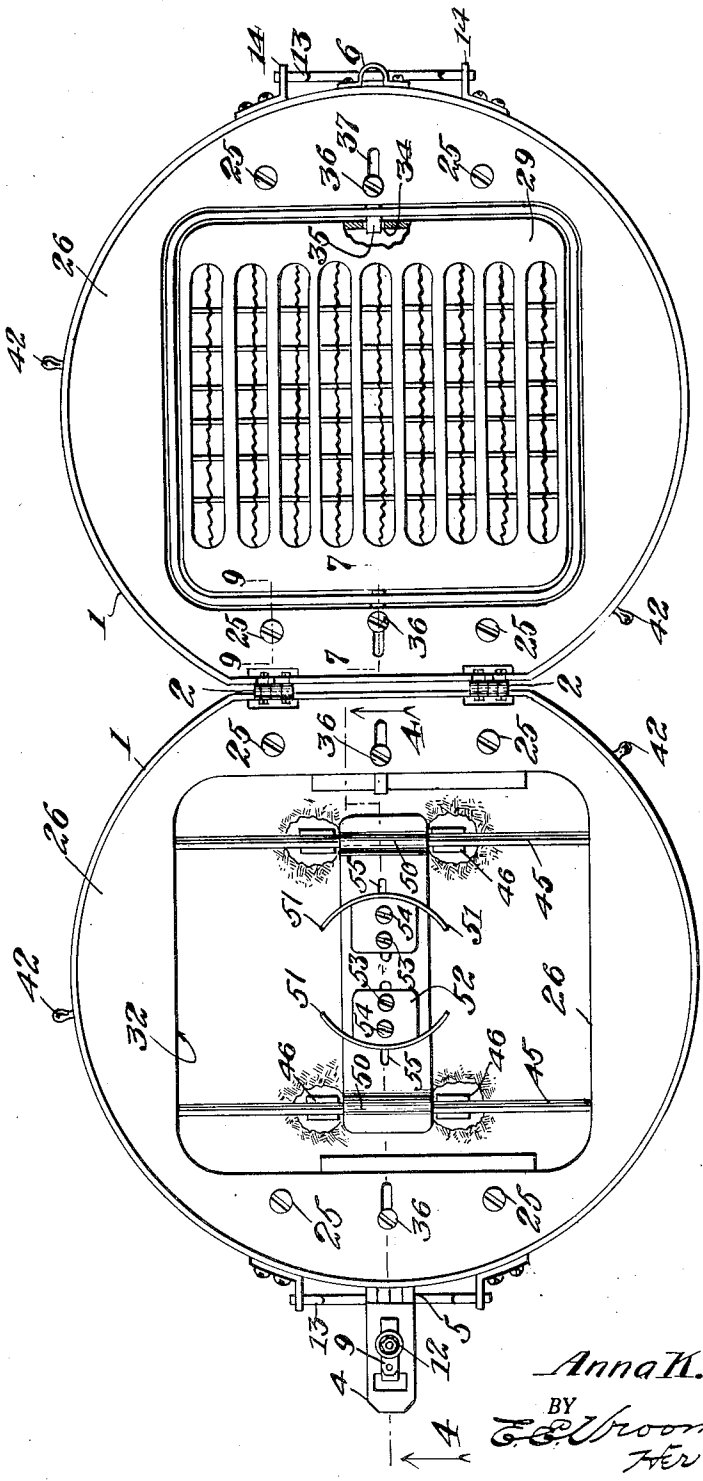


Fig. 2.

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COMBINATION PORTABLE STOVE

Filed April 6, 1931 4 Sheets-Sheet 3

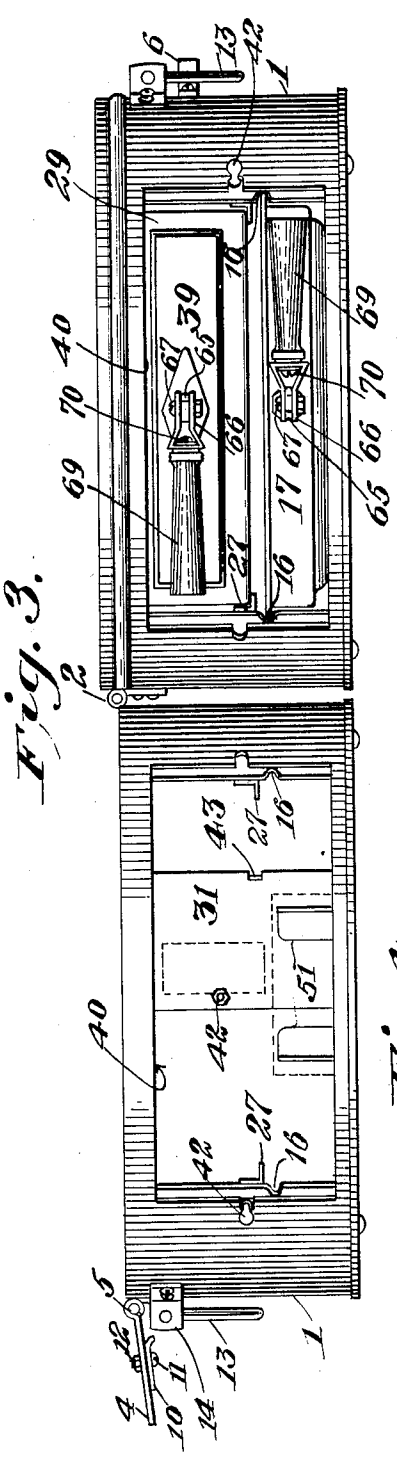


Fig. 3.

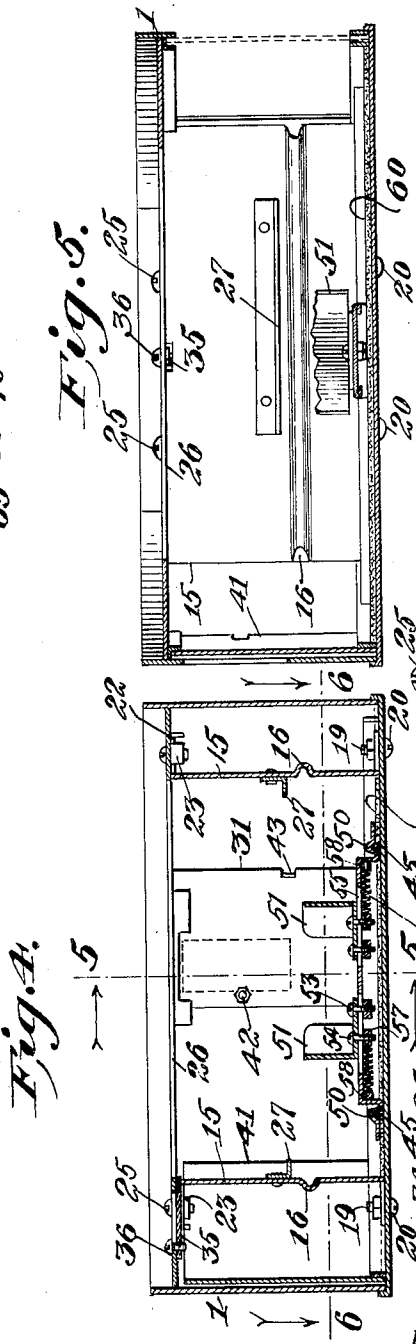


Fig. 5.

Fig. 4.

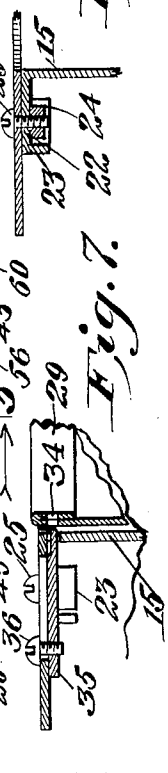


Fig. 7.

Fig. 9.

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COMBINATION PORTABLE STOVE

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Fig. 10.

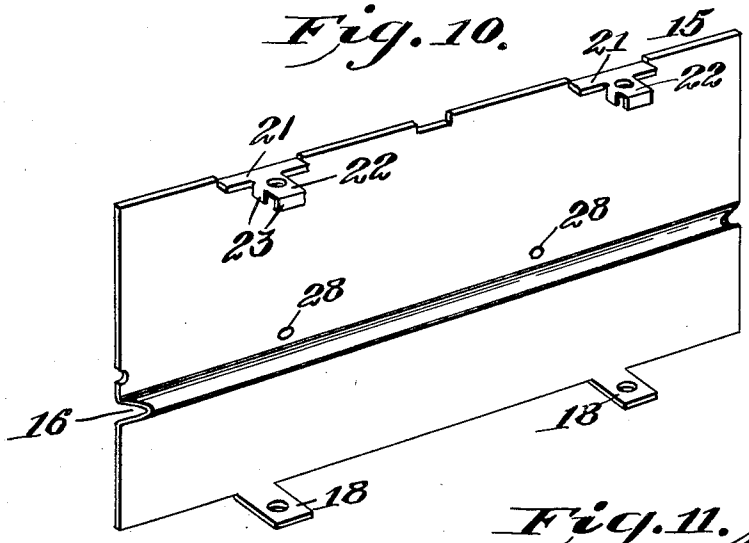


Fig. 11.

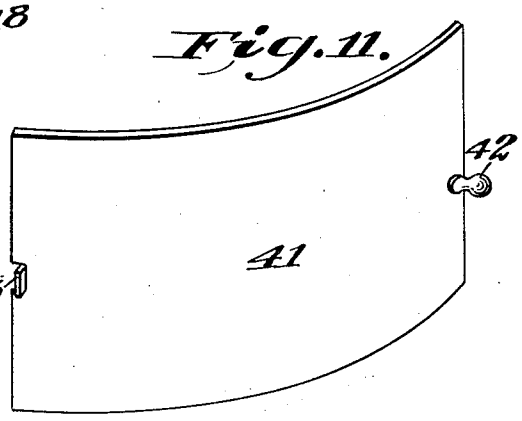


Fig. 12.

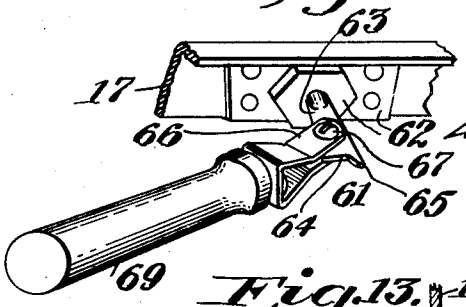


Fig. 13.

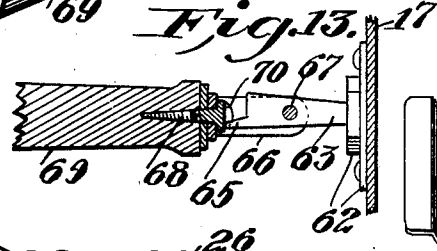
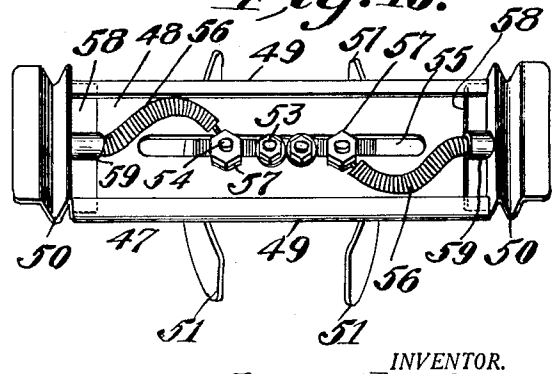


Fig. 15.



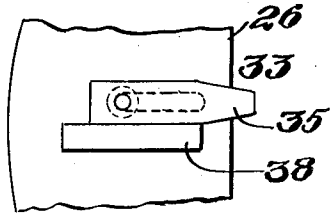


Fig. 8.

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UNITED STATES PATENT OFFICE

ANNA K. LINDSEY, OF MORRISONVILLE, ILLINOIS

COMBINATION PORTABLE STOVE

Application filed April 6, 1931. Serial No. 528,169.

This invention relates to a combination portable stove.

An object of the invention is the construction of a simple and efficient portable stove which is admirably adapted for use by college students or in light housekeeping, or touring, or on excursions and in many other instances.

Another object of my invention is the construction of a very compact apparatus, which includes the novel means for supporting several cooking units, which cooking units may be heated by electricity or canned fuel.

A still further object of my invention is the construction of a portable stove comprising two hinged casings, each casing being constructed for supporting a number of cooking units, and one of the casings provided with a holding device for supporting canned fuel when the operator desires to heat one or more of the units by a flame instead of utilizing electricity.

With the foregoing and other objects in view, my invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a perspective view of an apparatus constructed in accordance with the present invention, while

Figure 2 is a top plan view of the same in an open condition.

Figure 3 is a view in side elevation of the apparatus, in an open position, with the main sliding doors in an open condition too.

Figure 4 is a sectional view taken on line 4—4, Figure 2, and looking in the direction of the arrows.

Figure 5 is a sectional view taken on line 5—5, Figure 4, and looking in the direction of the arrows.

Figure 6 is a sectional view taken on line 6—6, Figure 4, and looking in the direction of the arrows.

Figure 7 is an enlarged sectional view taken on line 7—7, Figure 2.

Figure 8 is an enlarged bottom plan view of the catch device shown in Figure 7.

Figure 9 is an enlarged sectional view taken on line 9—9, Figure 2.

Figure 10 is an enlarged perspective view of one of the supporting plates.

Figure 11 is a perspective view of one of the sliding doors.

Figure 12 is an enlarged perspective view of one of the folding handle devices, while

Figure 13 is partly a longitudinal section and partly a side elevation of the same.

Fig. 14 is an enlarged sectional view taken on line 14—14, Figure 1.

Figure 15 is a perspective view of the bottom of the holding device for canned fuel.

Referring to the drawings by numerals, 1, 1 designates two casings that are substantially the same in structure. These casings 1 are connected together by two hinges 2. These casings 1 are secured in a closed or folded position (Fig. 1) by means of a latch device 3 (Fig. 14). This latch device 3 comprises a hasp 4 that is hingedly connected to one of the casings at 5. A staple 6 is secured to the other casing. The hasp 4 is provided with an elongated slot 7, which is enlarged at 8 to receive the staple 6. A sliding plate 9 is in the elongated slot 7, and a top plate 10 is on top of the hasp 4 with a screw 11 extending through said plates 9 and 10 and into nut 12, securing the parts together. When the hasp 4 is over the staple 6 and the top plate 10 is slid forwardly, the outer end of plate 10 enters the staple 6, securing the hasp in place for holding the two casings against accidental opening.

For moving or carrying the apparatus, I provide a handle 13 for each casing 1. The handles are pivotally mounted in sets of brackets 14. The operator can grasp both

handles at once, and easily convey the apparatus to the desired position.

Each casing 1 is of similar construction and therefore, I only specifically describe one. The casing is provided with two parallel supporting plates 15 (Fig. 10). Each plate 15 is provided near its center with a horizontal groove 16 in which the flanged edge of a pan cooking unit 17 is positioned (Fig. 3). The plate 15 is provided on its lower edge with preferably two horizontal lugs 18 through which extends the screws or bolts 19 (Fig. 4). The heads 20 of bolts 19 are on the outside of the bottom of the casing, constituting supports, because said heads will engage the surface of the table or the like upon which the apparatus is placed, thereby not requiring the whole bottom of each casing to engage the support, or table. The heads 20 may be covered with any ordinary means, such as rubber (not shown) to keep the heads from injuring or scratching the support. The upper edge of the plate 15 is provided with preferably two flanges 21. Each flange is provided with an inwardly extending lug 22. Lug 22 is provided with depending flanges 23 on three sides. A nut 24 (Fig. 7) is placed between flanges 23 of lug 22 and a screw 25 extends through the horizontal collar 26 and through lug 22 into said nut 24 securing the parts together. The flanges 23 keep the nut from turning and, therefore, constitute a nut lock therefor. On the outer face of each plate 15 is a horizontal bracket 27, which is fastened to the plate by means of rivets 28. The two brackets of each casing are in horizontal alignment, to support the heating cooking unit 29 (Fig. 3).

The heating cooking unit 29 is provided on its rear end with an ordinary electric plug attachment 30 (dotted lines Fig. 6), which plug attachment registers with a rear sliding door 31. To insert the heating cooking unit 29, the pan-like cooking unit 17 is removed, and then the rear end of the unit 29 is placed down in the large opening 32 of collar plate 26 and then the heating unit is brought to a horizontal position upon the supporting brackets 27. Then to secure the heating unit 29 in place, I provide two catch devices 33 (Fig. 8). At opposite sides of the heating unit 29, I form elongated apertures 34. A sliding plate 35 is fastened to the inner face of collar plate 26 by means of screw 36. This screw 36 is slidably mounted in elongated aperture 37. Parallel with sliding plate 35 is a plate 38; plate 38 is fixedly secured to the inner face of collar plate 26, and this plate 38 keeps the sliding plate 35 from turning, or in true alignment with the elongated aperture 34 in the side of the heating unit 29. Therefore, it will be seen that by shoving screw 36 forward, the outer end of sliding plate 35 will enter the aperture 34, locking the heating unit 29 in position.

The electrical heating unit of each casing 1 is similarly constructed. In each heating unit, I place a cooking unit 39 (Fig. 3) of any known structure such as a waffle iron or a toaster. These cooking units, as well as the pan unit 17 are placed within the casing through the main opening 40; this main opening is known as the front opening. Each of these openings may be closed by the front sliding door 41 (Fig. 11). The structure of the front doors 41 and the rear doors 31 are similar. Each door comprises a curved body having an outwardly extending knob 42 that the operator grasps for manipulating the door. At the rear or other end of the body is cut or stamped out a lug 43. This bent out lug 43 acts as a spacer or guide to prevent the door from binding as it is slid back and forth within the casing. On the bottom of the casing is formed an annular groove 44 in which the bottom of each door slides; the outer end of lug 43 bearing always against the inner face of the side of the casing 1. The upper end of each door (Fig. 4) is free to slide behind the plate 15 because the ends of each plate 15 do not extend to the inner face of the casing 1 (Fig. 6). Therefore, it will be seen that I have two sliding front doors 41 and two rear sliding doors 31.

When it is not desired to use electricity as the heating means, then the heating units 29 are removed, as well as the pans and what is known as canned fuel is employed, which is sold on the market under the name for instance "Sterno". To accommodate this canned fuel being used in my casing, each is provided on the inner face of the bottom with parallel upstanding tracks 45. Upstanding lugs 46 are fastened to the bottom and engage opposite sides of each track for the purpose hereinafter described. The canned fuel holding device 47 (Fig. 15) comprises a horizontal plate 48 that is bent over along its longitudinal edges 49 forming reinforced edges. The ends of plate 48 are folded to form track grooves 50, in which the tracks 45 are positioned. When the holding device 47 has been slid on the tracks to the center of the casing, riding over and being positioned between the two sets of retaining lugs of each track, said holding device can not be accidentally displaced. Sliding jaws 51 are provided, each jaw having a horizontal base 52, through which extend screws 53 and 54. These screws 53 and 54 extend through elongated slots 55 in plate 48. To each screw 54 is fastened the outer end of a coil spring 56 by means of nuts 57. A plate 58 has its ends under the folded over portions or flanges 49 (Fig. 15) and the center of the plate is formed into a socket 59, in which the outer end of coil spring 56 is removably seated. As the jaws 51 are spread apart for accommodating different size canned fuel, greater compression is caused on the coil springs 56, which results in the can

being held securely between the jaws. This I have found to be true from actual experience with a full size working model. In fact, this whole apparatus has been reduced to practice, and has been found in every particular to be highly efficient. When the holding device 47 is not in use, it can be placed in one of the pans, and the pan unit inserted into the casing for storage purpose.

The entire bottom of each casing is covered by a sheet 60 of asbestos or like non-heat conducting material, whereby, in use, the apparatus can not give off sufficient heat to injure any furniture upon which it may be placed.

Each cooking unit is provided with at least one folding handle device. This handle device 61 (Figs. 12 and 13) comprises a plate 62 fixedly secured to the outer side of the cooking unit 17 or 39. Extending outwardly from plate 62 is a post 63. The outer end of post 63 is flattened and terminates in a straight edge 64 and an outwardly extending spur 65. A yoke 66 straddles the outer end of post 63 and is pivotally mounted on the post by means of screw 67. Yoke 66 has a screw 68 extending therethrough and into the handle 69. The head of screw 68 (Fig. 13) is adapted to receive the spur 65 in the groove 70, whereby this positioning prevents any further pivotal movement of handle 69 upon the post and also braces and stabilizes the entire structure by the spur 65 acting as an additional fastening means between the post and the handle while the handle is in its extended or open position, prior to closing against the body of the cooking unit. When all of the cooking units are in the casing, the handles 69 are folded inwardly, against the cooking unit, whereupon the main doors 41 can be slid to a closed position, as shown in Figure 1.

It will be seen that in my apparatus, everything is concealed, suggesting a stove, when the sections are folded together as shown in Figure 1. When thus folded together, the apparatus has the appearance of a "carry all" hat box, attractive in color and design. But when opened, it is seen to be a complete cooking outfit for both electric and canned fuel, ever ready for quick service.

While I have described the preferred embodiment of my invention and illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates, during the extensive manufacture of the same, and I, therefore, reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claims.

What I claim is:

1. In an apparatus of the class described, the combination of a casing, said casing provided with a bottom, a collar plate in the upper portion of said casing, supporting plates within said casing under said collar plate, each supporting plate provided with a lug engaging said collar plate and also with a lug engaging said bottom, and fastening means extending through said lugs and through said collar plate and bottom securing the same together.

2. In an apparatus of the class described, the combination of a casing, said casing provided with a bottom, a collar plate in the upper portion of said casing, parallel supporting plates within said casing under said collar plate, each supporting plate provided with a pair of apertured lugs against said bottom, fastening means provided with heads extending through said bottom and said apertured lugs, said heads constituting supports for said casing upon a main support, said supporting plate provided with a pair of flanges on its upper edge, each flange terminating in a lug, each lug provided with depending nut-engaging flanges, nuts within said nut-engaging flanges of the lugs, screws extending through said collar plate and lugs into said nuts, and means on said supporting plates for supporting a heating or cooking unit within the casing.

3. In an apparatus of the class described, the combination of a casing provided therein with a groove on its bottom and therein with a supporting plate, said supporting plate having its ends spaced from the inner walls of the casing a distance equal to the width of said groove, a sliding door in said groove behind said supporting plate and adapted to slide by the ends of said supporting plate, and a heating or cooking unit supporting means within said casing.

4. In an apparatus of the class described, the combination of a casing, a holding device within said casing, said holding device comprising a plate reinforced along its longitudinal edges, said plate provided with elongated apertures, slidable jaws upon said plate, bolts extending through said jaws and said elongated apertures, transverse plates against the bottom of said first mentioned plate and having their ends under the reinforced edges of said first mentioned plate, each transverse plate provided with a socket near its center, coil springs fastened at their inner ends to said bolts, and the outer ends of said springs positioned in said sockets.

5. In an apparatus of the class described, the combination of a casing provided with a collar plate, a heating unit within said collar plate, said heating unit provided in opposite sides with elongated apertures, sliding plates against the inner face of said collar plate and registering with the elongated apertures of the heating unit, fixed plates against the inner face of said collar plate parallel with said sliding plates, said collar plate provided with elongated apertures above said sliding plates, and screws extending through said elongated apertures and into said sliding plates.

6. In an apparatus of the class described, the combination of a casing provided with supporting plates, brackets on said supporting plates, a detachable heating unit on said brackets, a collar plate within said casing and around said heating unit above said supporting plates, and catch means on said collar plate and co-operating with said heating unit for securely holding it in place upon said brackets.

In testimony whereof I hereunto affix my signature.

ANNA K. LINDSEY.